

## Remarks

Claims 1, 3, 6, 7, 8, 10-12, 15, and 17 have been amended. Claims 2, 9, and 13 have been cancelled without prejudice or disclaimer, and claims 18-22 have been newly added. Therefore, claims 1, 3, 4, 6-8, 10-12, 15, 17, and 18-22 are pending. Support for the instant amendments is provided throughout the as-filed specification. Thus, no new matter has been added. In view of the following comments, allowance of all the claims pending in the application is respectfully requested.

### Rejection Under 35 U.S.C. § 103

Claims 1, 4, and 6 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 5,489,888 to Jagiella et al. ("Jagiella"), in view of U.S. Patent No. 5,315,259 to Jostlein ("Jostlein"), and further in view of U.S. Patent No. 5,444,597 to Blake et al. ("Blake").

Claims 2, 3, 10, and 17 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Jagiella, in view of Jostlein, in view of Blake, and further in view of U.S. Patent No. 5,557,215 to Saeki et al. ("Saeki").

Claim 15 was rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Jagiella, in view of Jostlein, and further in view of Saeki.

Claim 7 was rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Jagiella, in view of Jostlein, in view of Blake, and further in view of U.S. Patent No. 4,654,581 to Neukermans et al. ("Neukermans").

Claims 8 and 9 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Jagiella, in view of Jostlein, in view of Blake, in view of Neukermans, in view of U.S. Published Application No. 2002/0008954 to Leaser ("Leaser"), and further in view of U.S. Patent No. 4,870,452 to Tanimoto et al. ("Tanimoto").

Claim 11 was rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Jagiella, in view of Jostlein, in view of Blake, in view of Saeki, and further in view of U.S. Patent No. 5,670,066 to Barnes et al. ("Barnes").

Claims 12 and 13 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Jagiella, in view of Jostlein, in view of Blake, in view of Saeki, in view of Leeser, and further in view of U.S. Published Application No. 2003/0072122 to Ishida ("Ishida").

#### **I. Claims 1, 3, 4, 6, and 15**

Claim 1 recites, in part:

a DC source, wherein the DC source is in series with said first AC source to provide a DC voltage to said at least one electrode to provide a clamping force on said object.

The Office Action concedes that neither the cited portions of Jostlein and Jagiella disclose or teach a DC source to provide a DC voltage to said at least one electrode to provide a clamping force on said object. Page 6 of the Office Action alleges that Saeki discloses a DC source 46 that applies a DC voltage to provide a clamping force to a wafer at col. 7, lines 13-17. However, the relied upon portions of Saeki and Blake fail to disclose or teach that the DC source 46 is in series with an AC source. In particular, Fig. 1 of Saeki shows that DC source 46 is connected between ground and feeder rod 40 with no AC source in series with the DC source 46. Further, the cited portions of Blake fail to provide any disclosure of an AC source in Blake's apparatus, let alone it being in series with a DC source.

For *at least* the reason that the cited portions of the references relied upon, either alone or in combination with one another, fail to disclose or render obvious all of the claimed aspects of claim 1, the rejection of claim 1 should be withdrawn. Claim 15 includes similar subject matter and thus, the

rejection of claim 15 should be withdrawn for similar reasons as noted above with respect to claim 1. Claims 3, 4, and 6 depend from claim 1 and therefore are patentable over the cited portions of the references relied upon for the reasons noted above with respect to claim 1, as well as for the aspects they recite individually.

## **II. Claims 7 and 8**

Claim 7 recites, in part:

said controller being structured to determine a clamping force on said object and to provide said actuator with a maximum value for the acceleration on said object based on the determined clamping force.

Claim 7 was amended to incorporate aspects formerly recited in claim 9. Page 8 of the Office Action indicates that the aspects of claim 9 were rejected under 35 U.S.C. 103 as allegedly unpatentable over Jagiela, Jostlein, Blake, Neukermans, Leeser, and Tanimoto. However, the rejection fails to address all of the claim aspects. For instance, the rejection does not address, and Applicant submits that the cited portions of Jagiela, Jostlein, Blake, Neukermans, Leeser, and Tanimoto fail to disclose or teach, the aspect of "said controller being structured to determine a clamping force on said object and to provide said actuator with a maximum value for the acceleration on said object based on the determined clamping force." For example, only Leeser appears to discuss acceleration and then merely discloses determining the clamping force needed in view of a maximum acceleration, the opposite of what is discussed above.

Therefore, the rejection of claim 7 should be withdrawn. Claim 8 depends from claim 7 and therefore is also patentable over the cited portions of the references relied upon for the reasons noted above with respect to claim 7, as well as for the aspects it recites individually.

## II. Claims 10-12

Claim 10 recites, in part:

deriving from the clamping force a maximum acceleration of the support structure and the object during a movement which causes movement of the support structure relative to the object; and

moving the support structure and the object, wherein an acceleration of the support structure and the object is less than the maximum acceleration.

Page 10 of the Office Action alleges that “Ishida discloses the relationship between chucking force and maximum acceleration” at ¶ 55 of Ishida. However, the relied upon portion of Ishida appears to describe that given the acceleration of the chuck and substrate, the necessary chucking force may be calculated. ¶ 44. In contrast, according to an aspect of claim 10, the clamping force is determined and the maximum acceleration is determined *from the clamping force* exerted on the object. Further, none of the cited portions of Jostlein, Blake and Saeki make any reference to acceleration of an object.

For *at least* the reason that the portions of the references relied upon fail to disclose or render obvious all of the claimed aspects of claim 10, the rejection of claim 10 should be withdrawn. Claims 11 and 12 depend from claim 10 and therefore are also patentable over the portions of the references relied upon for the reasons noted above with respect to claim 10, as well as for the aspects they recite individually.

## IV. Claim 17

Claim 17 recites, in part:

comparing the clamping force to a minimum clamping force suitable to hold the object on the support structure during movement of the support structure;

moving the support structure and the object together, when the determined clamping force is more than or equal to the minimum clamping force unless the determined clamping force is less than the minimum clamping force

Page 10 of the Office Action *concedes* that "Jagiella as modified does not disclose moving the structure after comparing the clamping force to predetermined minimum clamping force." However, pages 10-11 of the Office Action allege that "[a]s the chucking force necessary to hold the wafer in place is already determined, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Jagiella to include comparing the force to a predetermined minimum clamping force to hold the structure in place while moving."

Applicant traverses the improper Official Notice. The relied upon portions of the references, i.e. Ishida, appear to describe applying a chucking voltage to generate the chucking force necessary for holding the substrate 4 while resisting the accelerations computed by the acceleration computing unit 32. ¶ 44. In other words, it appears that the chucking voltage is set to a known value that is sufficient to resist accelerations to which the wafer is subjected. The Office Action fails to establish why the clamping force would be compared to a minimum clamping force after "the chucking force necessary to hold the wafer in place is already determined" (as conceded by the Office Action). Moreover, the Office Action fails to establish why it would be obvious to move the support structure and the object together, when the determined clamping force is more than or equal to the minimum clamping force unless the determined clamping force is less than the minimum clamping force. As noted above, the chucking force needed to hold the wafer has been determined and so in all cases the substrate holding apparatus will be moved.

For *at least* the reasons that improper Official Notice is taken and the

portions of the references relied upon fail to disclose or render obvious all of the claimed aspects of claim 17, the rejection of claim 17 should be withdrawn. If the rejection is maintained, Applicant requests documentary evidence in support of the Official Notice of facts from the Applicant's field of invention; and a proper reasoned basis supported by evidence that it would be obvious to combine such references to teach "comparing the clamping force to a minimum clamping force suitable to hold the object on the support structure during movement of the support structure and moving the support structure and the object together, when the determined clamping force is more than or equal to the minimum clamping force unless the determined clamping force is less than the minimum clamping force" within a "method for capacitively detecting an object on a support structure," as recited in claim 17.

### **Newly Added Claims**

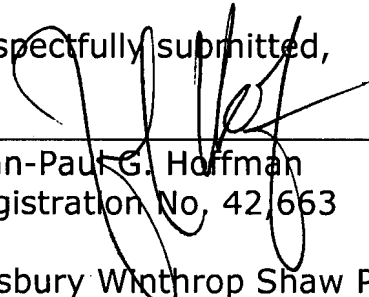
The relied upon portions of the references do not appear to disclose, teach, or suggest all of the claimed aspects as recited in newly added claims 18-22 at least by virtue of their dependency from claims 7 and 15 respectively, and for the features they recite individually.

## **Conclusion**

Having addressed each of the foregoing rejections, it is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, the application is in condition for allowance. Notice to that effect is respectfully requested.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

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Respectfully submitted,  
  
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